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Docket No. **JP920010021US1**   Serial No. **10/076,379**   Atty: **David A. Mims Jr.**

Applicant: **Kohji Hashimoto**

__X__ Transmittal Form	__X__ Certificate of Facsimile	__X__ Fee Transmittal
_____Amendment	__X__ Appeal Brief	
_____Amendment AF	_____Notice of Appeal	
_____Ext. of Time	_____Reply Brief	
_____IDS Statement	_____Change of Address	
_____Other _____		

Deposit Acct. No. / 09-0447

Fees: Amendment _____Notice of Appeal   **$500** Appeal Brief   Other

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TRANSMITTAL FORM	Application Number	10/076,379
	Filing Date	February 14, 2002
	First Named Inventor	Kohji Hashimoto
	Art Unit	2155
(to be used for all correspondence after initial filing)	Examiner Name	David R. Lazaro
Total Number of Pages In This Submission 32	Attorney Docket Number	JP920010021US1

ENCLOSURES   (Check all that apply)

[✓] Fee Transmittal Form
   [ ] Fee Attached

[ ] Amendment/Reply
   [ ] After Final
   [ ] Affidavits/declaration(s)

[ ] Extension of Time Request

[ ] Express Abandonment Request

[ ] Information Disclosure Statement

[ ] Certified Copy of Priority Document(s)

[ ] Reply to Missing Parts/ Incomplete Application
   [ ] Reply to Missing Parts under 37 CFR 1.52 or 1.53

[ ] Drawing(s)

[ ] Licensing-related Papers

[ ] Petition

[ ] Petition to Convert to a Provisional Application

[ ] Power of Attorney, Revocation Change of Correspondence Address

[ ] Terminal Disclaimer

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[ ] CD, Number of CD(s) _____
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[ ] After Allowance Communication to TC

[ ] Appeal Communication to Board of Appeals and Interferences

[✓] Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)

[ ] Proprietary Information

[ ] Status Letter

[ ] Other Enclosure(s) (please identify below):

Remarks
Appellants' Brief (37 C. F. R. Section 41.37)

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	International Business Machines Corporation	
Signature	David Mims Jr.	
Printed name	David A. Mims, Jr.	
Date	1/30/06	Reg. No. 32,708

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FEE TRANSMITTAL
For FY 2006

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT	($)	500.00

Complete if Known	
Application Number	10/076,379
Filing Date	February 14, 2002
First Named Inventor	Kohji Hashimoto
Examiner Name	David R. Lazaro
Art Unit	2155
Attorney Docket No.	JP920010021US1

METHOD OF PAYMENT (check all that apply)

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1. BASIC FILING, SEARCH, AND EXAMINATION FEES

Application Type	FILING FEES Fee ($)	Small Entity Fee ($)	SEARCH FEES Fee ($)	Small Entity Fee ($)	EXAMINATION FEES Fee ($)	Small Entity Fee ($)	Fees Paid ($)
Utility	300	150	500	250	200	100	_____
Design	200	100	100	50	200	100	_____
Plant	200	100	300	150	130	65	_____
Reissue	300	150	500	250	160	80	_____
Provisional	200	100	0	0	600	300	_____
					0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee ($)	Small Entity Fee ($)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

Total Claims	Extra Claims	Fee ($)	Fee Paid ($)
_____ - 20 or HP =	_____	x _____ =	_____

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims	Extra Claims	Fee ($)	Fee Paid ($)
_____ - 3 or HP =	_____	x _____ =	_____

HP = highest number of independent claims paid for, if greater than 3.

Multiple Dependent Claims	
Fee ($)	Fee Paid ($)
_____	_____

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee ($)	Fee Paid ($)
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4. OTHER FEE(S)

Non-English Specification, $130 fee (no small entity discount)

Other (e.g., late filing surcharge): Filing of an Appeal Brief (37 C. F. R. Section 41.37)

Fees Paid ($)
$500.00

SUBMITTED BY		
Signature	[signature]	Registration No. (Attorney/Agent) 32,708
Name (Print/Type) David A. Mims, Jr.		Telephone 512-823-0950
		Date 1/30/06

Docket No. JP9-2001-0021US1
S/N: 10/076,379

JAN 3 0 2006

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: **Kohji Hashimoto**	§	Group Art Unit: **2155**
	§	
Serial No. **10/076,379**	§	Examiner: **Lazaro, David R.**
	§	
Filed: **February 14, 2002**	§	Confirmation No. **1345**
	§	
For: **Network System, Server, Clients**	§	
Communication Method, And	§	
Communication Computer Program	§	
Product	§	

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

ATTENTION: Board of Patent Appeals and Interferences

APPELLANTS' BRIEF (37 C.F.R. § 41.37)

This Appeal Brief is in furtherance of the Notice of Appeal filed November 30, 2005 (37 C.F.R. § 41.31).

The fees required under § 41.20(b)(2), and any required petition for extension of time for filing this brief and fees therefore, are dealt with in the accompanying Transmittal of Appeal Brief.

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I.   Real Party in Interest

The real party in interest in this appeal is the following party: International Business Machines Corporation.

II.   Related Appeals and Interferences

There are no related appeals and interferences for this application.

III.   Status of Claims

The claims on appeal are Claims 1-35. No claims have been canceled. Each of Claims 1-35 has been finally rejected. Each of Claims 1-35 is appealed.

IV.   Status of Amendments

No amendments have been filed subsequent to the Final Office Action. Thus, the status of the claims is as set forth in the amendment filed June 27, 2005.

V.   Summary of Claimed Subject Matter

As described on Pages 1-77 of the Application, and as shown in Figures 1-15, the present invention provides a technique for handling the assignment of permanent ID (Identifier) information for ACK (acknowledge) packets and NACK (negative acknowledge) packets during Client/Server transmissions. The ACK packet is transmitted by a Client to indicate successful receipt of transmitted information sent by a Server while the NACK packet is transmitted to indicate a failure to receive transmitted information (See Specification, Page 1, Lines 24-29). As illustrated in Figure 1, Server 11 boardcast data using parabolic antenna 13, which is then relayed by communication satellite 15, to parabolic antenna 14, attached to Client 12. Server 11 may also transmit data using parabolic antenna 13 using radio waves to parabolic antenna 14, to Client 12. (See Specification, Page 31, Lines 2-10). Client 12 is capable of communicating with

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Server 11 using a modem 18 using the Internet 21 connected to an Internet Service Provider

(ISP) 19. The ACK/NACK packets from Client 12 are transmitted to Server 11 via the Internet

21. When Server 11 fails to receive the ACK/NACK packets following the transmission of

information to Client 12, the Server 11 polls any attached Client 12 devices to determine which

Client 12 has not responded. In the network as previously described, where Client 12 sends

ACK/NACK packets over Internet 21, the Server 11 and Client 12 are granted IP addresses to

allow connections to the Internet 21 (See Specification, Page 5, Lines 11-24). The IP addresses

are dynamic and are subject to being changed such that Server 11 and Client 12 may fail when

attempting to communicate with each other (See Specification, Page 5, Lines 15-24). Applicant's

invention discloses the concept of permanent IDs for each Client 12 that is mutually identifiable

and unchangeable (See Specification, Page 5, Line 26 through Page 6, Line 2). Applicant

discloses the use of a terminal ID which is permanent and mutually identifiable and is granted to

each Client 12 along with the IP address (See Specification, Page 34, Lines 12-22). Applicant

further discloses where the permanent IDs are stored (See Specification, Page 35, Lines 10-16)

in the Name ID field of the ACK packet (Figure 7) and the NACK packet (Figure 8). The

permanent IDs of the invention allow the Client 12 and Server 11 to communicate despite

changes to the IP addresses.

VI.   Grounds of Rejection to be Reviewed on Appeal

The ground of rejection to be reviewed on appeal is as follows:

(1) Claims 1-35 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over

Hamilton (U.S. Patent No. 6,392,993) in view of Fraser et al. (U.S. Patent No. 6,629,149).

VII.   Argument

A.   Rejection of Claims 1-35 under 35 U.S.C. § 103(a) as unpatentable over
Hamilton in view of Fraser et al.

The Final Office Action rejected Claims 1-35 under 35 U.S.C. § 103(a) as being

unpatentable over Hamilton in view of Fraser et al. That rejection is not well founded and

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should be reversed. The Examiner's rejection of the claims is erroneous for several reasons.
First, the combination suggested by the Examiner is not fairly suggested by the references.
Second, the references cannot be combined to achieve Applicant's invention. Finally, the
Examiner has attempted to use hindsight reconstruction, given the Applicant's disclosure, to
supply what the references neither teach nor suggest.

Hamilton discloses a way of sending short data messages from a sending system to a
plurality of receiving systems that reduces the networked traffic using two novel protocols. The
first protocol is a Statistically Reliable Transmission protocol (Col. 2, Lines 3-17) which is
tuned to reduce the probability that any single system will not receive a message. The second
protocol, Positive Reliability Transmission Protocol, is employed when the Statistical protocol is
insufficient and receipt must be guaranteed. Hamilton discloses that both protocols are based on
UDP and both protocols multicast UDP packets to one or many recipients (Col 3, Lines 19-24).
The packets transmitted using Hamilton's technique depend upon source and destination IP
addresses and UDP ports in the IP and UDP portions of a datagram header (See Col. 10, Line 47
through Col. 11, Line 12). Hamilton discloses that most packet implementations will contain at
least the destination ID, the sender ID, each of which comprise an IP address and a port number,
and a data field for those packets that transfer data (Col 12, Lines 25-33). Hamilton further
discloses that the transmission list comprises the message number, a pointer to the beginning of
the message buffer, and for each recipient, the recipient's UDP address (Col. 28, Lines 5-19).
Hamilton states that as with other addresses disclosed in the specification, the UDP address of
each recipient may comprise an IP address and a UDP port number. Hamilton fails to show or
disclose a permanent ID that is mutually identifiable and permanent as in the claimed invention.

Fraser discloses a technique for providing a global-valid address (such as an IP address)
which contains device identity in a first field and device location information in a second field

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(Col. 4, Line 19). Fraser discloses that a device recognized by a WAN is called a "global

device". Examples of a global device include fixed and wireless telephones that can

communicate with other telephones coupled to the WAN (Col. 4, Lines 43-48). Fraser's address

structure contains a TYPE FIELD that identifies the address format and function (Col. 5, Lines

33-37), LOCATION ADDRESS FIELD which includes information about the location of a

demark between the WAN and the local network (Col. 5, 49-52), DEVICE IDENTITY FIELD

which includes a globally unique reference to a device coupled to the WAN (Col. 8, Lines

27-31), and a SOCKET FIELD which includes information about the source and/or destination

of communications with a device, and serves to globally identify each communications endpoint

(Col. 9, Lines 63-66). Fraser discloses that the invention encompasses any inline agent that

exploits the separation of device identifier and device location address information. The

invention further encompass inline agents for providing other network services, including

network access control, network usage metering, database coherency services, etc. (col. 17, Lines

25-33). While Fraser discloses a technique for separating device identifier and device location

address information, it does so in a manner and for a purpose that is far different from that shown

in Applicant's invention.

Applicant's invention is directed to eliminating dynamic IP address assignments or

pseudo physical device IDs for networked clients (See Specification, Page 2, Lines 17-21 and

Page 2, Line 25 through Page 3, Line 6). Applicant's invention achieves this by granting each

client a permanent ID that is mutually identifiable and permanent. These permanent ID

assignments result from the use of terminal IDs (See Specification, Page 34, Lines 15-16). A

server maintains a database of the terminal IDs granted to the clients. The terminal IDs are

represented by text (See Specification, Page 34, Lines 19-20). Unlike IP addresses which are

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granted to clients while connecting to the Internet, the terminal IDs do not require a prior Internet

connection (See Specification, Page 34, Lines 12-15). IP addresses, unlike terminal IDs are not

permanent and are not mutually identifiable. Applicant's invention utilize permanent IDs which

are represented by text such as characters and numerals (See Specification, Page 5, Line 28

through Page 6, Line 1). As is well known to those skilled in the art and discussed in the

Background of Applicant's invention, IP addresses consist of 32 bits and are granted by a daemon

upon logon to the Internet (See Specification, Page 32, Lines 3-20). The IP addresses for the

clients are related to the network of the LAN. For example, if the LAN is [9.68.59] then the

clients connected to that LAN receive an IP address of [9.68.59.255] (See Specification, Page 32,

Lines 3-20). The IP addresses are not permanent or mutually identifiable.

Turning now to Hamilton, the reference specifically calls for the use of IP addresses as
known in the prior art. Hamilton discloses that the novel protocols of the invention are based on
UDP and both protocols multicast UDP packets to one or many recipients (Col 3, Lines 19-24).
The packets transmitted using Hamilton's technique depend upon source and destination IP
addresses and UDP ports in the IP and UDP portions of a datagram header (See Col. 10, Line 47
through Col. 11, Line 12). The IP addresses and UDP ports of Hamilton are not permanent or
mutually identifiable as in the claimed invention. Applicant's invention in contrast, utilize the
terminal IDs which are both permanent and mutually identifiable. Fraser discloses a technique
for separating device identifier and device location address information for inline agents for
providing network services, including network access control, network usage metering, database
coherency services, etc. (Col. 17, Lines 25-33). While Fraser discloses a technique for separating
device identifier and device location address information, it does so in a manner far different
from that shown in Applicant's invention. Fraser discloses an address structure having four fields
including a TYPE FIELD, LOCATION ADDRESS FIELD, DEVICE IDENTITY FIELD, and a
SOCKET FIELD. There is no disclosure how Fraser's address structure maybe incorporated into
Hamilton's ACK/NACK packet. With respect to Claims 1, 3, 27, and 30, Applicant's invention
is distinguished from Hamilton in view of Fraser because the permanent IDs are in a textual

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representation (See Specification, Page 34, Lines 19-20 and Page 5, Line 28 through Page 6, Line 1). The combination of Hamilton and Fraser provides no such capability. Applicant's invention further provides a determination section for determining whether or not to reply based on whether its own permanent ID is contained in a packet for polling that has been received by means of broadcast or multicast; and a reply section for replying or not replying to a server based on the determination made by the determination section. Again, the combination of Hamilton and Fraser is incapable of providing a permanent ID contained in a packet for polling because Fraser's address structure cannot be incorporated into Hamilton's packet. The combination of Hamilton in view of Fraser fails to disclose Applicant's invention of Claims 1, 3, 27, and 30 under 35 U.S.C. § 103(a) and should be reversed.

With respect to Claims 2 and 4, neither of the references disclose polling associated with non-receipt at said server of an ACK or NACK from said clients in response to transmission of file data from said server to said clients. The ACK or NACK generated by the clients of Applicant's invention provides terminal ID information within the packet. The ACK or NACK generated by the combination of Hamilton and Fraser require alternation of Hamilton's structure and is incapable of delivering the information required for polling by the server. Accordingly, the Examiner's rejection of Claims 2 and 4 is erroneous and should be reversed.

With respect to Claims 5, 11, 17-18, 26, 29, 31-32 and 35, there is no teaching or suggestion in any of the references of the concept of a permanent ID information storage section for storing its own permanent ID information, wherein each of the clients is granted an unchangeable permanent ID in a textual representation that is mutually identifiable and permanent. Accordingly, the Examiner's rejection of Claims 5, 11, 17-18, 26, 29, 31-32 and 35 is erroneous and should be reversed.

With respect to Claims 6 and 12, neither of the references teaches or suggests the concept where polling is associated with non-receipt at said server of an ACK or NACK from said clients in response to transmission of file data from said server to said clients, and wherein said reply section puts its client's own permanent ID information in a reply packet to said server. The ACK or NACK packet structures of Hamilton are incapable of being modified with the Fraser's four fields address structure. Accordingly, the Examiner's rejection of Claims 6 and 12 is erroneous and should be reversed.

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With respect to Claims 7, 9, 19-23 and 28, neither of the references discloses the concept of a permanent ID information storage section for storing permanent IDs of each of the clients, wherein each of the clients is granted an unchangeable permanent ID in a textual representation that is mutually identifiable and permanent. Accordingly, the Examiner's rejection of Claims 7, 9, 19-23 and 28 is erroneous and should be reversed.

With respect to Claims 8 and 10, there is no teaching or suggestion in any of the references of the concept of a permanent ID information storage section for storing permanent IDs of each of the clients, wherein each of the clients is granted an unchangeable permanent ID in a textual representation that is mutually identifiable and permanent. The combination of Hamilton and Fraser provides no such storage section for permanent IDs of each client where the client is granted an unchangeable permanent ID in a textual representation. Hamilton's structure is incapable of being modified with Fraser four field structure without improper hindsight reconstruction using Applicant's invention. Accordingly, the Examiner's rejection of Claims 8 and 10 is erroneous and should be reversed.

With respect to Claims 13, 15, 24-25 and 33-34, neither of the references teaches or suggests the concept of a permanent ID information storage section for storing permanent IDs of each of the clients, wherein each of the clients is granted an unchangeable permanent ID in a textual representation that is mutually identifiable and permanent. Accordingly, the Examiner's rejection of Claims 13, 15, 24-25 and 33-34 is erroneous and should be reversed.

With respect to Claims 14 and 16, neither of the references teaches or suggests the concept of a switching section which determines, based on N, which makes the number of packets to be transmitted smaller, the polling mode with non-receipt information or the polling mode with receipt information, and based on the determination switches between the polling mode with non-receipt information and the polling mode with receipt information in said polling transmission section. The combination of Hamilton and Fraser provides no capability where the number of packets to be transmitted is smaller. In fact, any implementation of Hamilton and Fraser would require additional transmissions for the four field address structure disclosed in Fraser. Accordingly, the Examiner's rejection of Claims 14 and 16 is erroneous and should be reversed.

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VIII. <u>Conclusion</u>

In view of the above, Appellants respectfully submit that claims 1-35 of the present application are not taught or suggested by the alleged combination of Hamilton in view of Fraser. Accordingly, Appellants request that the Board of Patent Appeals and Interferences overturn the rejections set forth in the Final Office Action.

Respectfully submitted,

David A. Mims, Jr.
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ATTORNEY FOR APPELLANTS

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CLAIMS APPENDIX

1. A network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, wherein said server comprises:

a permanent ID information storage section for storing permanent IDs of each of the clients, wherein each of the clients is granted an unchangeable permanent ID in a textual representation that is mutually identifiable and permanent; and

a polling transmission section for transmitting a packet for polling to the clients by means of broadcast or multicast, wherein the packet contains information about the permanent IDs of the clients that need or need not reply to the polling, and

wherein said client comprises:

a permanent ID information storage section for storing its own permanent ID information;

a determination section for determining whether or not to reply based on whether its own permanent ID is contained in the packet for polling that has been received by means of broadcast or multicast; and

a reply section for replying or not replying to the server based on the determination made by said determination section.

2. The network system according to claim 1, wherein said polling is associated with non-receipt at said server of an ACK or NACK from said clients in response to transmission of file data from said server to said clients.

3. A server in a network system that supports unicast as a communication scheme from the server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, comprising:

a permanent ID information storage section for storing permanent IDs of each of the clients, wherein each of the clients is granted an unchangeable permanent ID in a textual representation that is mutually identifiable and permanent; and

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a polling transmission section for transmitting a packet for polling to the clients by means of broadcast or multicast, wherein the packet contains information about the permanent IDs of the clients that need or need not reply to the polling.

4. The server according to claim 3, wherein said polling is associated with non-receipt at said server of an ACK or NACK from said clients in response to transmission of file data from said server to said clients.

5. A client in a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, comprising:

a permanent ID information storage section for storing its own permanent ID information, wherein each of the clients is granted an unchangeable permanent ID in a textual representation that is mutually identifiable and permanent;

a determination section for determining whether or not to reply based on whether its own permanent ID is contained in the packet for polling that has been received by means of broadcast or multicast; and

a reply section for replying or not replying to the server based on the determination made by said determination section.

6. The client according to claim 5, wherein said polling is associated with non-receipt at said server of an ACK or NACK from said clients in response to transmission of file data from said server to said clients, and wherein said reply section puts its client's own permanent ID information in a reply packet to said server.

7. A network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, wherein said server comprises:

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a permanent ID information storage section for storing permanent IDs of each of the clients, wherein each of the clients is granted an unchangeable permanent ID in a textual representation that is mutually identifiable and permanent;

a notification of information transmission section for transmitting a packet for notification of information to the clients by means of broadcast or multicast, wherein the packet contains information about the permanent IDs of the clients that need or need not reply to a polling packet sent afterward; and

a polling transmission section for transmitting a packet for polling to the clients by means of broadcast or multicast after said notification of information transmission section transmits the packet for notification of information, and
wherein said client comprises:

a permanent ID information storage section for storing its own permanent ID information;

a determination section for determining whether or not to reply to the polling afterward based on whether its own permanent ID is contained in the packet for notification of information that has been received by means of broadcast or multicast; and

a reply section for replying or not replying to said server in response to the packet for polling received by means of broadcast or multicast based on the determination made by said determination section after receipt of the packet of said notification of information.

8. The network system according to claim 7, wherein said notification of information is associated with receipt or non-receipt at said server of an ACK or NACK from said clients in response to transmission of file data from said server to said clients, and wherein said polling is associated with non-receipt at said server of an ACK or NACK from said clients in response to the transmission of the file data from said server to said clients.

9. A server in a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, comprising:

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a permanent ID information storage section for storing permanent IDs of each of the clients, wherein each of the clients is granted an unchangeable permanent ID in a textual representation that is mutually identifiable and permanent;

a notification of information transmission section for transmitting a packet for notification of information to the clients by means of broadcast or multicast, wherein the packet contains information about the permanent IDs of the clients that need or need not reply to a polling packet sent afterward; and

a polling transmission section for transmitting a packet for polling to the clients by means of broadcast or multicast after said notification of information transmission section transmits the packet for notification of information.

10. The server according to claim 9, wherein said notification of information is associated with receipt or non-receipt at said server of an ACK or NACK from said clients in response to transmission of file data from said server to said clients, and wherein said polling is associated with non-receipt at said server of an ACK or NACK from said clients in response to the transmission of the file data from said server to said clients.

11. A client in a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, comprising:

a permanent ID information storage section for storing its own permanent ID information, wherein each of the clients is granted an unchangeable permanent ID in a textual representation that is mutually identifiable and permanent;

a determination section for determining whether or not to reply to the polling afterward based on whether its own permanent ID is contained in a packet for notification of information that has been received by means of broadcast or multicast; and

a reply section for replying or not replying to said server in response to a packet for polling received by means of broadcast or multicast based on the determination made by said determination section after receipt of the packet of said notification of information.

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12. The client according to claim 11, wherein said notification of information is associated with receipt or non-receipt at said server of an ACK or NACK from said clients in response to transmission of file data from said server to said clients, and wherein said polling is associated with non-receipt at said server of an ACK or NACK from said clients in response to the transmission of the file data from said server to said clients, and wherein said reply section puts its client's own permanent ID information in a reply packet to said server.

13. A network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, wherein said server comprises:

a permanent ID information storage section for storing permanent IDs of each of the clients, wherein each of the clients is granted an unchangeable permanent ID in a textual representation that is mutually identifiable and permanent;

a polling transmission section for polling the clients from which an ACK or NACK has not been received after file data was transmitted to the clients by means of broadcast or multicast, wherein in a polling mode with non-receipt information, a packet for polling itself or notification of information prior to the polling is transmitted to said network by means of broadcast or multicast, wherein the packet contains permanent IDs of the clients that need reply to the polling, whereas in a polling mode with receipt information, a packet for polling itself or notification of information prior to the polling is transmitted to said network by means of broadcast or multicast, wherein the packet contains permanent IDs of the clients that need not reply to the polling;

a detection section for detecting a number N of clients from which an ACK or NACK has not been received in response to the transmission of the file data from the server to the clients by means of broadcast or multicast; and

a switching section for switching between the polling mode with non-receipt information and the polling mode with receipt information in said polling transmission section based on the number N, and

wherein said client comprises:

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a permanent ID information storage section for storing its own permanent ID information;

a determination section for determining whether or not to reply to the polling based on whether its own permanent ID is contained in the packet for polling itself or notification of information prior to the polling that has been received by means of broadcast or multicast; and

a reply section for replying or not replying to said server in response to the packet for polling received by means of broadcast or multicast based on the determination made by said determination section.

14. The network system according to claim 13, wherein the switching section determines, based on N, which makes the number of packets to be transmitted smaller, the polling mode with non-receipt information or the polling mode with receipt information, and based on the determination switches between the polling mode with non-receipt information and the polling mode with receipt information in said polling transmission section.

15. A server in a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, comprising:

a permanent ID information storage section for storing permanent IDs of each of the clients, wherein each of the clients is granted an unchangeable permanent ID in a textual representation that is mutually identifiable and permanent;

a polling transmission section for polling the clients from which an ACK or NACK has not been received after file data was transmitted to the clients by means of broadcast or multicast, wherein in a polling mode with non-receipt information, a packet for polling itself or notification of information prior to the polling is transmitted to said network by means of broadcast or multicast, wherein the packet contains permanent IDs of the clients that need reply to the polling, whereas in a polling mode with receipt information, a packet for polling itself or notification of information prior to the polling is transmitted to said network by means of broadcast or multicast, wherein the packet contains permanent IDs of the clients that need not reply to the polling;

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a detection section for detecting a number N of clients from which an ACK or NACK has not been received in response to the transmission of the file data from the server to the clients by means of broadcast or multicast; and

a switching section for switching between the polling mode with non-receipt information and the polling mode with receipt information in said polling transmission section based on the number N.

16. The server according to claim 15, wherein said switching section determines, based on N, which makes the number of packets to be transmitted smaller, the polling mode with non-receipt information or the polling mode with receipt information, and based on the determination switches between the polling mode with non-receipt information and the polling mode with receipt information in said polling transmission section.

17. A client in a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, comprising:

a permanent ID information storage section for storing its own permanent ID information; wherein each of the clients is granted an unchangeable permanent ID in a textual representation that is mutually identifiable and permanent;

a determination section for determining whether or not to reply to the polling based on whether its own permanent ID is contained in the packet for polling itself or notification of information prior to the polling that has been received by means of broadcast or multicast; and

a reply section for replying or not replying to said server in response to the packet for polling received by means of broadcast or multicast based on the determination made by said determination section.

18. A communication method for a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the

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server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, wherein said server performs the steps of:

storing permanent IDs of each of the clients, wherein each of the clients is granted an unchangeable permanent ID in a textual representation that is mutually identifiable and permanent; and

transmitting a packet for polling to the clients by means of broadcast or multicast, wherein the packet contains information about the permanent IDs of the clients that need or need not reply to the polling, and

wherein said client performs the steps of:

storing its own permanent ID information;

determining whether or not to reply based on whether its own permanent ID is contained in the packet for polling that has been received by means of broadcast or multicast; and

replying or not replying to the server based on said determination.

19. A communication method for a server in a network system that supports unicast as a communication scheme from the server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, comprising the steps of:

storing permanent IDs of each of the clients, wherein each of the clients is granted an unchangeable permanent ID in a textual representation that is mutually identifiable and permanent; and

transmitting a packet for polling to the clients by means of broadcast or multicast, wherein the packet contains information about the permanent IDs of the clients that need or need not reply to the polling.

20. A communication method for clients in a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, comprising the steps of:

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storing its own permanent ID information, wherein each of the clients is granted an unchangeable permanent ID in a textual representation that is mutually identifiable and permanent;

determining whether or not to reply based on whether its own permanent ID is contained in the packet for polling that has been received by means of broadcast or multicast; and

replying or not replying to the server based on said determination.

21. A communication method for a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, wherein said server performs the steps of:

storing permanent IDs of each of the clients, wherein each of the clients is granted an unchangeable permanent ID in a textual representation that is mutually identifiable and permanent;

transmitting a packet for notification of information to the clients by means of broadcast or multicast, wherein the packet contains information about the permanent IDs of the clients that need or need not reply to a polling packet sent afterward; and

transmitting a packet for polling to the clients by means of broadcast or multicast after having transmitted the packet for notification of information, and
wherein said client performs the steps of:

storing its own permanent ID information;

determining whether or not to reply to the polling afterward based on whether its own permanent ID is contained in the packet for notification of information that has been received by means of broadcast or multicast; and

based on the determination, replying or not replying to said server in response to the packet for polling received by means of broadcast or multicast after receipt of the packet of said notification of information.

22. A communication method for a server in a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication

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scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, comprising the steps of:

storing permanent IDs of each of the clients, wherein each of the clients is granted an unchangeable permanent ID in a textual representation that is mutually identifiable and permanent;

transmitting a packet for notification of information to the clients by means of broadcast or multicast, wherein the packet contains information about the permanent IDs of the clients that need or need not reply to a polling packet sent afterward; and

transmitting a packet for polling to the clients by means of broadcast or multicast after having transmitted the packet for notification of information.

23.   A communication method for clients in a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, comprising the steps of:

storing its own permanent ID information, wherein each of the clients is granted an unchangeable permanent ID in a textual representation that is mutually identifiable and permanent;

determining whether or not to reply to the polling afterward based on whether its own permanent ID is contained in a packet for notification of information that has been received by means of broadcast or multicast; and

based on the determination, replying or not replying to said server in response to a packet for polling received by means of broadcast or multicast after receipt of the packet of said notification of information.

24.   A communication method for a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, wherein said server performs the steps of:

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storing permanent IDs of each of the clients, wherein each of the clients is granted an unchangeable permanent ID in a textual representation that is mutually identifiable and permanent;

polling the clients from which an ACK or NACK has not been received after having transmitted file data to the clients by means of broadcast or multicast, wherein in a polling mode with non-receipt information, a packet for polling itself or notification of information prior to the polling is transmitted to said network by means of broadcast or multicast, wherein the packet contains permanent IDs of the clients that need reply to the polling, whereas in a polling mode with receipt information, a packet for polling itself or notification of information prior to the polling is transmitted to said network by means of broadcast or multicast, wherein the packet contains permanent IDs of the clients that need not reply to the polling;

detecting a number N of clients from which an ACK or NACK has not been received in response to the transmission of the file data from the server to the clients by means of broadcast or multicast; and

switching between the polling mode with non-receipt information and the polling mode with receipt information based on the number N, and

wherein said client performs the steps of:

storing its own permanent ID information;

determining whether or not to reply to the polling based on whether its own permanent ID is contained in the packet for polling itself or notification of information prior to the polling that has been received by means of broadcast or multicast; and

based on the determination, replying or not replying to said server in response to the packet for polling received by means of broadcast or multicast.

25. A communication method for a server in a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, comprising the steps of:

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storing permanent IDs of each of the clients, wherein each of the clients is granted an unchangeable permanent ID in a textual representation that is mutually identifiable and permanent;

polling the clients from which an ACK or NACK has not been received after having transmitted file data to the clients by means of broadcast or multicast, wherein in a polling mode with non-receipt information, a packet for polling itself or notification of information prior to the polling is transmitted to said network by means of broadcast or multicast, wherein the packet contains permanent IDs of the clients that need reply to the polling, whereas in a polling mode with receipt information, a packet for polling itself or notification of information prior to the polling is transmitted to said network by means of broadcast or multicast, wherein the packet contains permanent IDs of the clients that need not reply to the polling;

detecting a number N of clients from which an ACK or NACK has not been received in response to the transmission of the file data from the server to the clients by means of broadcast or multicast; and

switching between the polling mode with non-receipt information and the polling mode with receipt information based on the number N.

26. A communication method for clients in a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, comprising the steps of:

storing its own permanent ID information wherein each of the clients is granted an unchangeable permanent ID in a textual representation that is mutually identifiable and permanent;

determining whether or not to reply to the polling based on whether its own permanent ID is contained in a packet for polling itself or notification of information prior to the polling that has been received by means of broadcast or multicast; and

based on the determination, replying or not replying to said server in response to a packet for polling received by means of broadcast or multicast.

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27. A communication computer program product comprising a computer useable medium having computer program code means recorded thereon for a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, wherein the computer program code means causes a server computer to perform the steps of:

storing permanent IDs of each of the clients, wherein each of the clients is granted an unchangeable   permanent ID in a textual representation that is mutually identifiable and permanent; and

transmitting a packet for polling to the clients by means of broadcast or multicast, wherein the packet contains information about the permanent IDs of the clients that need or need not reply to the polling, and

wherein the program causes a client computer to perform the steps of:

storing its own permanent ID information;

determining whether or not to reply based on whether its own permanent ID is contained in the packet for polling that has been received by means of broadcast or multicast; and

replying or not replying to the server based on said determination.

28. A communication computer program product comprising a computer useable medium having computer program code means recorded thereon for a server in a network system that supports unicast as a communication scheme from the server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, wherein the computer program code means causes a server computer to perform the steps of:

storing permanent IDs of each of the clients, wherein each of the clients is granted an unchangeable   permanent ID in a textual representation that is mutually identifiable and permanent; and

transmitting a packet for polling to the clients by means of broadcast or multicast, wherein the packet contains information about the permanent IDs of the clients that need or need not reply to the polling.

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29. A communication computer program product comprising a computer useable medium having computer program code means recorded thereon for clients in a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, wherein the computer program code means causes a client computer to perform the steps of:

storing its own permanent ID information, wherein each of the clients is granted an unchangeable permanent ID in a textual representation that is mutually identifiable and permanent;

determining whether or not to reply based on whether its own permanent ID is contained in the packet for polling that has been received by means of broadcast or multicast; and

replying or not replying to the server based on said determination.

30. A communication computer program product comprising a computer useable medium having computer program code means recorded thereon for a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, wherein the computer program code means causes said server computer to perform the steps of:

storing permanent IDs of each of the clients, wherein each of the clients is granted an unchangeable permanent ID in a textual representation that is mutually identifiable and permanent;

transmitting a packet for notification of information to the clients by means of broadcast or multicast, wherein the packet contains information about the permanent IDs of the clients that need or need not reply to a polling packet sent afterward; and

transmitting a packet for polling to the clients by means of broadcast or multicast after having transmitted the packet for notification of information, and

wherein the program causes said client computer to perform the steps of:

storing its own permanent ID information;

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determining whether or not to reply to the polling afterward based on whether its own permanent ID is contained in the packet for notification of information that has been received by means of broadcast or multicast; and

based on the determination, replying or not replying to said server in response to the packet for polling received by means of broadcast or multicast after receipt of the packet of said notification of information.

31. A communication computer program product comprising a computer useable medium having computer program code means recorded thereon for a server in a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, the computer program code means causes a server computer to perform the steps of:

storing permanent IDs of each of the clients, wherein each of the clients is granted an unchangeable permanent ID in a textual representation that is mutually identifiable and permanent;

transmitting a packet for notification of information to the clients by means of broadcast or multicast, wherein the packet contains information about the permanent IDs of the clients that need or need not reply to a polling packet sent afterward; and

transmitting a packet for polling to the clients by means of broadcast or multicast after having transmitted the packet for notification of information. `

32. A communication computer program product comprising a computer useable medium having computer program code means recorded thereon for clients in a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, wherein the computer program code means causes a client computer to perform the steps of:

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storing its own permanent ID information, wherein each of the clients is granted an unchangeable permanent ID in a textual representation that is mutually identifiable and permanent;

determining whether or not to reply to the polling afterward based on whether its own permanent ID is contained in a packet for notification of information that has been received by means of broadcast or multicast; and

based on the determination, replying or not replying to said server in response to a packet for polling received by means of broadcast or multicast after receipt of the packet of said notification of information.

33. A communication computer program product comprising a computer useable medium having computer program code means recorded thereon for a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, wherein the computer program code means causes said server computer to perform the steps of:

storing permanent IDs of each of the clients, wherein each of the clients is granted an unchangeable permanent ID in a textual representation that is mutually identifiable and permanent;

polling the clients from which an ACK or NACK has not been received after having transmitted file data to the clients by means of broadcast or multicast, wherein in a polling mode with non-receipt information, a packet for polling itself or notification of information prior to the polling is transmitted to said network by means of broadcast or multicast, wherein the packet contains permanent IDs of the clients that need reply to the polling, whereas in a polling mode with receipt information, a packet for polling itself or notification of information prior to the polling is transmitted to said network by means of broadcast or multicast, wherein the packet contains permanent IDs of the clients that need not reply to the polling;

detecting a number N of clients from which an ACK or NACK has not been received in response to the transmission of the file data from the server to the clients by means of broadcast or multicast; and

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switching between the polling mode with non-receipt information and the polling mode with receipt information based on the number N, and

wherein the program causes said client computer to perform the steps of:

storing its own permanent ID information;

determining whether or not to reply to the polling based on whether its own permanent ID is contained in the packet for polling itself or notification of information prior to the polling that has been received by means of broadcast or multicast; and

based on the determination, replying or not replying to said server in response to the packet for polling received by means of broadcast or multicast.

34. A communication computer program product comprising a computer useable medium having computer program code means recorded thereon for a server in a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, wherein the computer program code means causes a server computer to perform the steps of:

storing permanent IDs of each of the clients, wherein each of the clients is granted an unchangeable permanent ID in a textual representation that is mutually identifiable and permanent;

polling the clients from which an ACK or NACK has not been received after having transmitted file data to the clients by means of broadcast or multicast, wherein in a polling mode with non-receipt information, a packet for polling itself or notification of information prior to the polling is transmitted to said network by means of broadcast or multicast, wherein the packet contains permanent IDs of the clients that need reply to the polling, whereas in a polling mode with receipt information, a packet for polling itself or notification of information prior to the polling is transmitted to said network by means of broadcast or multicast, wherein the packet contains permanent IDs of the clients that need not reply to the polling;

detecting a number N of clients from which an ACK or NACK has not been received in response to the transmission of the file data from the server to the clients by means of broadcast or multicast; and

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switching between the polling mode with non-receipt information and the polling mode with receipt information based on the number N.

35.   A communication computer program product comprising a computer useable medium having computer program code means recorded thereon for clients in a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, wherein the computer program code means causes a client computer to perform the steps of:

storing its own permanent ID information wherein each of the clients is granted an unchangeable   permanent ID in a textual representation that is mutually identifiable and permanent;

determining whether or not to reply to the polling based on whether its own permanent ID is contained in the packet for polling itself or notification of information prior to the polling that has been received by means of broadcast or multicast; and

based on the determination, replying or not replying to said server in response to the packet for polling received by means of broadcast or multicast.

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EVIDENCE APPENDIX

NONE

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RELATED PROCEEDINGS APPENDIX

NONE